Human Factors Services for Aerospace & Defence

ERGONOMIC SYSTEMS ASSOCIATES

Performance & Safety with Human Factors

As aerospace and defense technology becomes more complex and operational requirements become more demanding, the greater the likelihood that system design elements can degrade both safety and performance. If the human factors of the system design are not considered, the cognitive, physical and physiological systems of the operator can quickly become overwhelmed. ESA can help ensure that this does not happen!

ESA is Atlantic Canada's leading human performance consulting company specializing in human factors. Our Certified Human Factors Professionals have worked extensively in the aerospace and defence sector and have more than 30 years of experience assisting workplaces solve their human factors related design problems and improve their overall performance!

Our goal is to assist our customers in designing the optimum human-machine system and/or piece of equipment. By leveraging ESA's academic and industry expertise, we are able to help you optimize the design of your or your customer's product.

ESA: Expertise and Experience

ESA has the expertise and experience you need to optimize the design of your aerospace and defense systems. We develop human factors solutions that are built on solid qualitative and quantitative data — data collected from the users of your current or virtual environment by human factors consultants with the skills, methods, knowledge and experience to analyze and translate the data into meaningful design criteria. ESA's human factors consultants use the latest tools and scientific skills to measure and examine your equipment and/or system through the project life cycle. The data from these studies is used to help you optimize your design while meeting appropriate military standards. Our human factors consultants focus in three primary areas:

Human Factors Program Planning

ESA's human factors consultants identify and tailor relevant military and civilian standards with specific human factors content in coordination with project development specifications. This information helps to define the means of compliance process that will form the Human Factors Program Plan. ESA provides the following services to assist you in the front end:

- Military and Civilian Standards Interpretation and Tailoring
- HFE Traceability Matrix Development
- Human Factors Heuristic evaluation
- Identification of preliminary designs

User Interface Design

System usability and performance problems can often be traced to the poor design of user interfaces. ESA's human factors consultants will help to ensure your systems are designed to be intuitive, easy to use and easy to learn. A properly designed system can lead to error reduction, increased efficiency, and increased safety. ESA provides the following services to design better system interfaces:

- Task Analysis
- User Interface Design
- Mock-Up and Simulation
- Usability Testing and Evaluation
- Trade-Off Analysis
- Training

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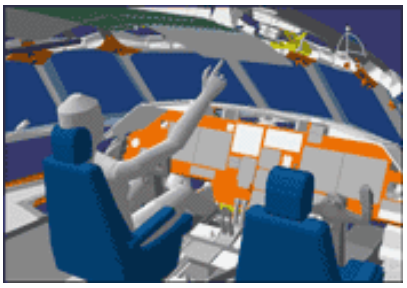
Work Space Design

With increasing regularity, issues related to errors, performance, and safety can be attributed to the poor design of spaces, complex equipment, and systems that humans work in, operate, and maintain. ESA's human factors consultants will help to ensure that vehicles, aircraft, vessels, work spaces, and equipment are designed to optimize vision, physical fit, and operability for your intended user population. Well designed systems can contribute to optimal accessibility, error reduction, improved mission effectiveness, increased safety, and operator comfort. ESA provides the following services to design better work spaces:



Human CAD Modelling

- Task Analysis
- Multivariate Anthropometric Analysis
- Human CAD Modeling
- Work Space Design
- Mock-Up, Prototyping, and Simulation
- Usability Testing and Evaluation
- Trade-Off Analysis

Usability Testing & Evaluation

Make Smarter Business Decisions...

By ensuring that the needs and capabilities of people are considered in the design of your system ESA's human factors consultants can help reduce the time, risk and uncertainty that is typically associated with new technologies, processes or environmental changes. To learn how you can create the best human-machine system — contact an ESA representative or visit ESA on the Internet at www.ergosystems.ca.

"ESA's working knowledge of military standards, research, testing and evaluation procedures with respect to HFE principles applied to the installation design was highly valued and augmented the success of the IPDR and ICDR." – T.G. Galley, VP Engineering, IMP Group, Aerospace Division

ESA Developed and Executed the Human Factors Engineering Program for the CMS Component of the Aurora CP-140 Incremental Modernization Project.

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